



HOTEL

How to analyse life quality

An accompanying measure within the EU Fifth Framework Programme

Keyaction "Improving the Socio Economic Knowledge Base"

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Preface

HOTEL – How to analyse quality of life – is an accompanying measure in the key Action “Improving the socio-economic knowledge base” of the EC Fifth Framework Programme. Partners from five different countries are involved in the project:

- Coordinator: FACTUM OHG, Traffic- and Social Analysis, Ralf Risser, Austria
- Institut National de Recherche sur les Transports et leur Sécurité (INRETS)- Department d'évaluation et recherche en accidentologie, Stefan Petica, France
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The project HOTEL takes a starting point in a heuristic approach that focuses on different disciplines' practice in connection with the assessment and consideration of quality of life and underlying mobility and transport preconditions. The core concept is to find out, how aspects of life quality are taken care of in practice in the field of transport, mobility and city planning. With "practice" all kinds of activities are meant that set the scene for the living conditions of citizens. The responsible for these activities are politicians and decision makers, planners, implementers and administrators.

The project HOTEL is divided into eight work packages distributed over a life-span of 24 months. In WP 1 State of the Art we look for literature and empirical data concerning the meaning of quality of life in general. The central elements of our project are the workshops carried out in WP 2 and 3, to get an overview of quality of life-assessment in different countries, by different disciplines at different occasions, and the elements and indicators taken care of thereby, and the workshop in WP 5 that is carried out in order to improve frames for quality of life assessment and implementation of results. A toolbox for interdisciplinary use (WP 6) will result, and a pilot study to validate the toolbox is planned (WP 7).

WP 1 (State of the art) WP 2 and WP 3 represent the data collection phase. WP 5 to WP 7 reflect the phase where improvements of these procedures are elaborated on and tested. All workshops will be carried out under consideration of regions: Central, Eastern, Northern, Southern and Western Europe. In addition recommendations for a data-bank for quality of life assessment results by different disciplines, at different occasions, and in different regions will be worked out which makes information about procedures to measure quality of life and about their results easily available and accessible for both researchers and practical workers in the field. Dissemination of results (WP 8) will be done by electronic (Web-site) and print media (newspaper), and by oral communication, e.g. in the frame of congresses, expert conferences, etc., on the topic that nowadays take place at many different occasions.

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Summary

Quality of life is a term defined in many different ways. There is no single definition, which covers the widespread field. In the state-of-the art report some quality of life definitions and models are summarised. In addition the interrelation between sustainability and quality of life and between traffic & mobility and quality of life is considered.

Looking back into history at the beginning quality of life mainly referred to material supply. The main indicator for quality of life was the Gross National Product. At the end of the 1950s quality of life was linked to non-material values, too. The idea of a "quality of life" with strong qualitative ingredient was spread out over the world in the late 1960s and early 1970s, when first doubts were raised in the highly developed western societies about economic growth as the major goal of societal process.

Two distinct traditions of applied quality of life research emerged in different parts of the world: *The Scandinavian quality of life approach* and *the American quality of life approach*. The Scandinavian approach focuses on objective living conditions and their determinants. The American approach analyses the individuals' subjective experience of their lives. Nowadays, the quality of life research is in most cases based on both objective and subjective indicators.

Assessment of quality of life

The assessment of quality of life differs not only from disciplines to disciplines, but also within the disciplines. Some scientists put the satisfaction of individual needs in the centre of their quality of life reflection. Others concentrate on objective living conditions and the subjective well being. Some research dealing with quality of life indicated that subjective well being is strongly connected to the degree to which a person has different choices and opportunities and is also able to make use of them.

The subjective well-being is in the centre of the psychological quality of life approach. A strong sense of meaningful life, positive attitudes towards life, optimism, autonomy and experienced control of social environment support a high level of subjective well-being on the individual level. In addition a good social network (having many acquaintances, being appreciated, etc.) increases the level of subjective well-being. Besides it was found out that in affluent individualistic countries, where human rights are respected and a form of social equity exists, people tend to express a higher level of subjective well being than in countries with collectivism.

All indicators defined in the different disciplines refer quite consistently to four dimensions:

- **Social dimension:** The social dimension covers all aspects from health, social relations, mobility, social status, etc.
- **Political dimension:** Under political dimension all aspects are summarised that belong to a political system e.g. political stability, possibility of participation, quality of social services, tax systems
- **Economical dimension:** To the economical dimension belong for instance the use of resources, economic stability and competitiveness, employment.
- **Environmental dimension:** The environmental dimension covers aspects like the prudent use of resources, sustainable transportation, waste minimisation, etc..

Sustainability and quality of life

Quality of life is closely linked to sustainability. The term sustainability is generally defined as the effective use of natural, human and technological resources to meet today's community need without compromising the ability of future generation to meet their needs.

In the strategy programme for sustainable development (SD) for the United Kingdom it was established that there was equivalence between quality of life and SD. The programme covers the social, economic and environmental dimension. The assumption is that neither economic capital, human and social capital nor environmental capital should decrease. Also for Canadian leaders an improvement of the quality of life means to improve social, economic and environmental conditions that make life worthwhile for citizens. Concerning sustainability and quality of life it is underlined in the British strategy programme and by Canadian leaders that there is a demand for a high quality of policy. A policy where a continuous dialogue between government and public takes place, in which both parties continuously learn to see the issues from complementary perspectives. Without dialogue there is a risk of deepening misunderstanding between government and citizens, which has negative effect on a sustainable development and on the quality of life of citizens.

Traffic, mobility, city planning and quality of life

Quality of life is a frequently used keyword in the area of traffic, mobility and city planning. There is no doubt that these areas have a great impact on the quality of life of citizens. However, quality of life is often not operationalised in these fields. Especially, literature about the assessment of quality of life in practice is hard to be found.

But even in these areas it is important to combine objective and subjective perspectives. E.g., aspects of accessibility and the social communication seem to play a major role here.

More or less seven quality dimensions are relevant for the subjective well-being of road users and for the choice of mode: social climate/equity, objective safety, security, mobility, comfort, aesthetic/environmental quality, cost aspects.

With regard to a sustainable mobility it is underlined that practitioners in the traffic, mobility and city planning area have to be aware that people will only accept measures, respectively will only behave in a way to allow a sustainable development, if the sustainable behaviour is linked to an increase of their own quality of life. For that reason it is of great importance for practitioners to stay in permanent contact with the citizens, in order to know the preconditions for achieving the citizens co-operation.

Conclusions and input for the ongoing work packages

The main aim for the ongoing work packages is to find a way to shorten the distance between theory and practice about "quality of life" and to reach an operationally valid definition that will allow the experts, decision makers and the users to have a common, practice-based starting point to work on, in order to efficiently improve the "quality of life".

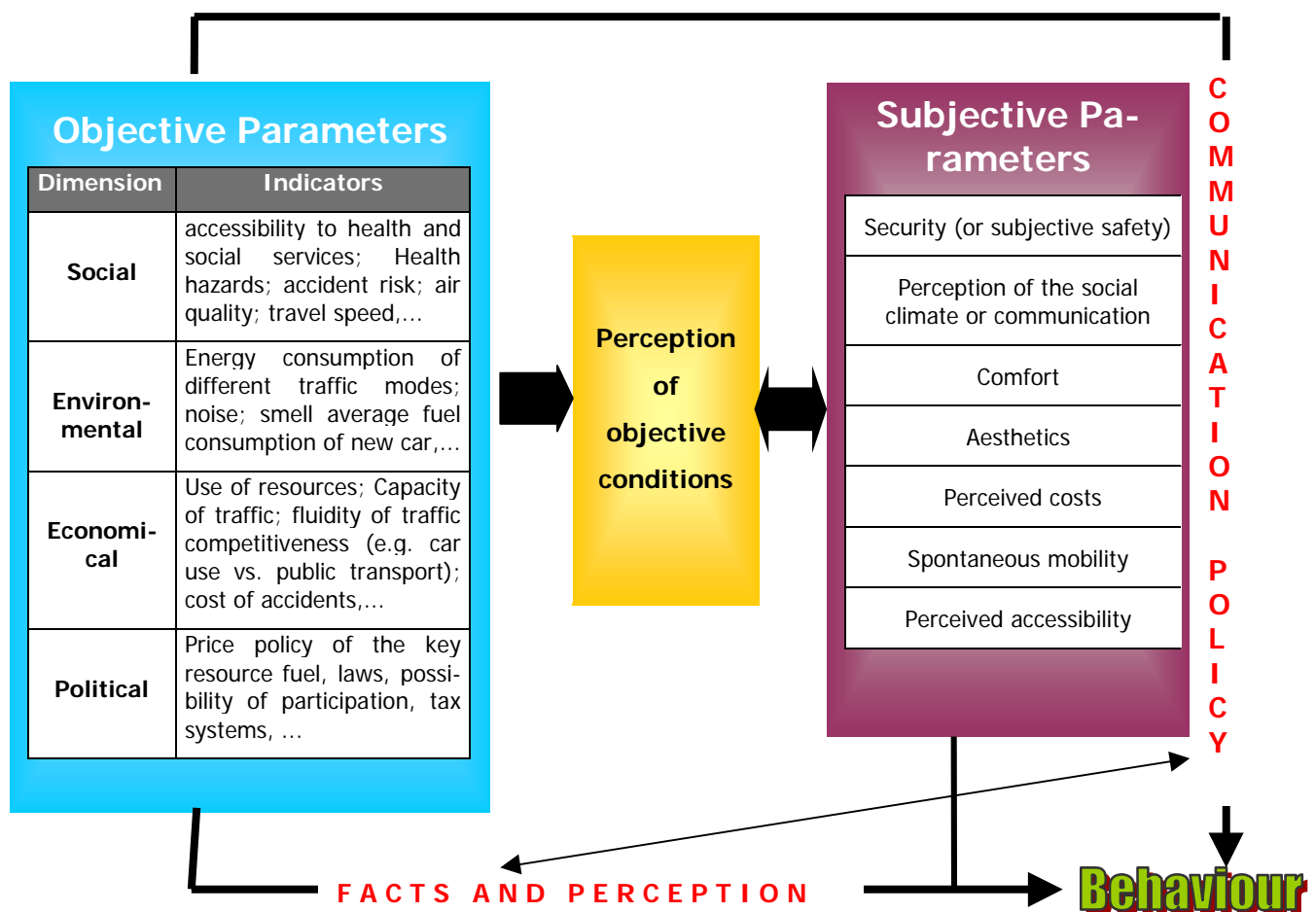
Especially in the field of transport, mobility and city planning a high quality of life for a majority of people can only be achieved if citizens behave in a way that allows a sustainable development.

For the assessment of quality of life it is even in these areas important to combine objective and subjective perspectives. According to literature four dimensions for objective parameters are relevant, as has been said above: the *Social Dimension* (accessibility to health and social services, accident risk,...), the *Environmental Dimension* (energy consumption of different traffic modes, noise, air quality ...), the *Economical Dimension* (use of resources, capacity of traffic, fluidity of traffic) and the *Political Dimension* (price policy, laws, possibility of participation, tax systems...).

On the other hand, there are subjective parameters like security, perception of social climate, comfort, aesthetics/environmental quality, perceived costs, spontaneous mobility, perceived accessibility.

Mobility preconditions provided by politicians, decision makers, etc and the perception of the objective conditions by citizens against the subjective parameters lead to a certain behaviour of the citizens. In addition this behaviour can be influenced by communication policy. As we have seen from the literature study the communicational aspect is of great importance in the assessment of quality of life. Marketing research has for instance pointed out the importance of the following: Good communication policy can make bad preconditions look better – of course with the risk of a boomerang effect, if citizens find out that they have been manipulated with the help of communication; and bad communication policy can make good preconditions look worse than they really are, with all disadvantages that brings about.

The following figure illustrates and summarises the relation between objective and subjective parameters, communication policy and behaviour, that has been discussed above:



1 Introduction

1.1 Aim of WP 1

The aim of WP 1 is:

- To give a broad review of the meaning of quality of life from different scientific points of view and from different regional, respectively cultural approaches
- To specify the indicators for quality of life: What kinds of indicators do different disciplines use?
- To elaborate on the interrelation between quality of life and sustainability
- To elaborate on the meaning of quality of life in the area of transport, mobility and city planning
- To give inputs for the ongoing work packages

1.2 Partners in WP 1

Three partners from three different countries took part in WP 1:

- FACTUM OHG, Traffic- and Social Analysis, Ralf Risser, Austria
- Comenius University Bratislava, Department of Psychology, Jana Plichtova, Slovakia
- Società Italiana di Psicologia della Sicurezza Viaria (SIPSiVi), Gian Marco Sardi, Italy

FACTUM is the leader of the work package. The work report has been written by Karin Ausserer and Ralf Risser in co-operation with Jana Plichtova and Gian Marco Sardi.

1.3 Working procedure – Data collection

In WP 1 we differentiated between the following types of literature:

- General literature about life quality
What is the meaning of life quality? How do you understand the concept of life quality? How do you measure life quality? What kind of indicators are used? Etc.
- Literature about the interrelation between life quality and sustainability
What aspects are important for good life quality in connection with sustainability? How is the interrelation between sustainability and life quality dealt with in the literature?
- Literature about the role of life quality in connection with traffic, mobility and city planning
How is life quality related to traffic, mobility and city planning? What kind of role does life quality play in the concept of traffic, mobility and city planning experts

All WP-partners collected relevant literature from their own countries and from other European countries.

1.4 Structure of the report

The report consists of a general part (chapter 2), where the concept of quality of life is described from different views. At the beginning we will give a rough background on the history of the quality of life. In the following different assessment approaches are presented. As a last point of the general part we will discuss the interrelation of quality of life with sustainability on the basis of two political concepts.

The next part (chapter 3) deals with the interrelation of quality of life with the transport, mobility and city planning area. We will look at quality of life aspects with regard to transport, mobility and city planning and will shortly describe some problems, which might occur if you deal with this topic.

In the last chapter (chapter 4) conclusions are drawn and inputs are summarised for the on-going work packages.

2 General perspectives on the quality of life

Quality of life is a concept that is often used in all kinds of researches. An internet research using the subject heading "quality of life", results in 100 000s of references.

Quality of life is a term defined in many different ways and it is hard to provide an exhaustive, integrated definition. As a matter of fact, it is simple enough to understand - when we talk about quality of life, that we refer to how good life is. But when we go a little deeper, we discover that it is not always a simple task to determine how "good" life is. A good life arises from a variety of life conditions that work together in complex ways.

To complicate the matter, what is considered to be a good life is often quite different for different people. It seems obvious enough that people throughout the centuries, and in various parts of the world, have defined quality in their lives in rather distinct ways. Even within our own time and culture, groups and individuals often think of quality in ways that are specific to their own life situations and their own characteristics.

We have seen in recent years, how many people have worked clarifying how we think about quality of life, and how we use it in our work and in our lives. Considerable progress has been made, but much work still needs to be done. Several authors have noted that quality of life, as a construct, is really still in its infancy.

In the following we will give a short overview of the history of quality of life followed by some definitions and models. Besides we will describe the psychological view on subjective well-being more deeply, which resembles very much some definitions of quality of life. This chapter finishes with a reflection on sustainability and its interrelation with quality of life.

2.1 A short retrospection

2.1.1 The term „quality of life“

The term "quality of life" has a relatively short history. Even though the English economist A.C. Pigou (1877-1959) already used the term "quality of life" in the 20ties in his book "The Economics of Welfare" (Pigou,1920), only in the middle of the 50ties the term "quality of life" became really popular in the Anglo-Saxon world.

At the beginning quality of life mainly referred to material supply of the population (Rahmani 1999). The main indicator for quality of life was the Gross National Product, without considering any distribution of goods or wealth. At the end of the fifties J.K. Galbraith (1958) redefined quality of life in the actual sense. Quality of life was no longer linked only to material but to non-material (social, political, environmental, etc.) values, too (Risser, 2000).

In the medical areas the social aspect of quality of life with respect to health was already introduced in 1948, after the World Health Organisation defined health as "not only the absence of infirmity and disease but also a state of complete physical, mental and social well being" (WHO, 1948). The subsequent appraisal of social and environmental factors in the medical area was prompted by major changes in government activities (Prutkin, Feinstein, 2002). In 1957 in the United States the National Health Survey was created. It was intended to measure the quality of health of the American people by determining "the positive elements of good health rather than merely the absence of disease and infirmity" (Linder, 1966).

John F. Kennedy picked up the term "quality of life" in his report on the state of the nation in 1960. In the German-speaking area the term "quality of life" was used for the first time in

1972 on an international Congress of the IG Metall in Oberhausen. Already one year later in 1973 the expression quality of life can be found in a governmental declaration of the federal chancellor Willy Brandt (Schipperges, 1996).

The idea of a "quality of life" was spread out over the world, when "The Club of Rome" proclaimed that we are living "beyond the limits" (1972). They demanded qualitative growth and a shed for critical reflection (Schipperges, 1996). Since then the term "quality of life" became a synonym for the prudent use of environmental, human and social capital in order to allow a worthy and human living also for the next generations

2.1.2 The development of social indicators

In the mid-1960s in the United States the Social Indicators movement, led by psychologists and sociologists began. Actually it was born in an attempt of the American space agency (NASA) to detect and anticipate the side effects of the space program on the American society. One result of the project was that there was almost a complete lack not only of adequate data but also of concepts and the methodology for this purpose. The director of the project, Raymond Bauer, presumably invented the term and concept of "social indicators". R. Bauer defined social indicators as "statistics, statistical series and all other forms of evidence that enable us to assess where we stand and are going with respect to our values and goals" (Bauer, 1966).

Jan Drenowski can be seen as another pioneer of the social indicator research. In the 1950s he tried to improve the measurement of the level of living by identifying components of welfare and by construction of respective indicators (Noll, 1996).

The Social Indicator movement advocated monitoring change in such areas of public life as education, health, employment, crime victimisation, political participation, population growth and measurement (Campbell, 1976).

The innovative ideas, concepts, and early approaches of social indicators research soon spread out to other countries and international organisations. In 1970 the OECD started its programme of work on social indicators (Bertrand, 1986/87), and roughly at the same time, the Social and Economic Council of the United Nations began to develop a "System of Social and Demographic Statistics".

The rise of the Social Indicator movement is obviously a result of the late 1960s and early 1970s. In a time of prosperity first doubts were raised in the highly developed western societies about economic growth as the major goal of societal progress. Quality was preferred to quantity. The concept of quality of life was born as an alternative to the ambiguous arbitrary concept of the affluent society and became the new, but also much more complex and multidimensional goal of societal development (Noll, 1996).

The boom period of social indicator research during the 1970s led to a flood of publications. The social indicator research was accepted as a field of academic social science and in many countries regular social reporting was established. Besides a specific infrastructure of data generation for societal monitoring and social reporting like quality-of-life-surveys, level-of-living-surveys, general social surveys and household panels was created.

In general, however, the social indicator research can be seen as an answer to the increased demands for information. An active social policy had to operationalise its core formula: the concept of quality of life.

2.1.2.1 The two traditions of applied quality of life research

In different parts of the world two distinct traditions of applied quality of life research emerged.

■ *Scandinavian Quality of Life Approach*

The Scandinavian quality of life research follows the tradition set by Jan Drenowski and Richard Titmus. It is defined as "*the individual's command over resources through which the individual can control and consciously direct his living conditions... Resources are defined in terms of money, property, knowledge, psychic and physical energy, social relations, security and so on ...*" (Erikson, 1993). This means the Scandinavian approach focuses on objective living conditions and their determinants, or in other words people's well-being is determined by the satisfaction of the basic needs of life.

The Scandinavian approach had a significant impact on many social projects around the world. The above mentioned OECD Social Indicator Development Programme belongs to this tradition.

■ *American Quality of Life Approach*

The American quality of life research analyses the individual's subjective experience of their lives. It bases welfare measurement primarily on subjective indicators. It follows the tradition of "mental health" research and was among others influenced by the social psychologist W.I. Thomas. The assumption is that well-being can be defined by people's conscious experiences – in terms of affect or cognitive satisfactions (Moller, Huschka, 2002). In other words welfare is defined as subjective well-being. As indicators measures of satisfaction and happiness are used. Angus Campbell, a follower of this tradition, once said that citizens are the best judges of their own life situation, "*quality of life must be in the eye of the beholder*" (Campbell, 1972)

Today it is generally agreed that there is a need for subjective perceptions to complement the objective factual measures of living conditions. For that reason the quality of life research is in most cases based on both objective and subjective indicators.

2.1.2.2 Social Reporting

According to H.H. Noll social reporting is the most important and most successful application of social indicators research (Noll, 1996) W. Zapf defines social reporting as "*information on social structures and processes and on preconditions and consequences of social policy, regularly, in time, systematically, and autonomously*" (Zapf, 1977, pp.11). For J. Vogel, a Scandinavian researcher, social reporting is a part of the democratic infrastructure with special political function. It places welfare issues on the political agenda and it supplies material to the public debate, influences the media and indirectly the administration (Vogel, 1990, pp. 441)

Social reporting is well established within the information systems of many countries and within international and supranational organisations, like OECD, the European Union and the United Nation. Canada is one of the most developed country with respect to social reporting. The United States, however, failed to institutionalise regular social reporting at national level. In Europe only a few countries do not conduct some sort of social reporting on the national level. But also outside Europe in Australia, Japan, South Africa, etc. there are social reporting activities.

In contrast to former social reports, which gave a comprehensive overview of the general living conditions in a country, recent reports concentrate on specific sectors of life, like health, education, family, on particular social problems like crime, poverty or on selected population groups like children, elderly people, or women. In addition social reporting is increasingly applied to sub-national aggregates such as regions, provinces or even cities and local communities (Noll, 1996).

2.2 Assessment of quality of life – definitions and models

As already mentioned in the introduction there are hundreds of different definitions of quality of life, but there is no single definition, which covers this widespread field.

In the philosophy “quality of life” stands for “a successful and happy life”. In an ordinary dictionary you find under quality of life: the constellation of objective living conditions and the subjective well-being of individuals. In another dictionary quality of life is defined as a collective term for the sum of those difficult definable elements, which are responsible for the happiness and satisfaction of the people living in a country. In a third dictionary quality of life is described with regard to the whole environment, the human working conditions, a healthy nutrition (Gugg, 2002).

These four definitions already underline the difficulties, when you have to define and assess “quality of life”.

In general, however, if you look at the assessment of quality of life you can differentiate between two different kinds of approaches:

- **Theoretical approaches**

The theoretical studies trying to assess quality of life have been mainly carried out by Universities and Research groups: in most cases they have provided segmentation in subcategories by population (children, adolescent, adult and ageing people) and arguments (health-related, social-related, cultural-related and environmental-related factors of quality of life). Most of the time they have provided objective indicators to assess these conditions and relative scales. In certain cases we have found subjective instruments to assess quality of life (mainly questionnaires) and relative rating scale.

- **Empirical studies**

The empirical studies trying to assess quality of life have usually been carried out by private organisation, local administration, non-governmental organisation, environmental organisation, and official national newspaper. The segmentation of the population and arguments is basically the same as in the case of the theoretical studies, with more attention to the indicators in order to make a classification. In fact these kinds of organisations have usually provided a list of indicators in grade to make a statistics are mainly used.

In the following we will give a short overview of assessment instruments in socio-economic research and in medical research.

2.2.1 Socio-economic methods of assessing quality of life

2.2.1.1 The quality of life matrices of Wolfgang Zapf

Zapf defines life quality as the constellation of objective living conditions and the subjective well-being of individuals and groups (Zapf, 1984). He uses a simple matrix to explain what is covered by the objective/subjective and individual/societal distinction (see Table 1).

Table 1: A typology of quality of life indicators

	Objective	Subjective
Individual level	Objective living conditions (e.g. income)	Subjective well-being (e.g. Income satisfaction)
Societal level	Quality of society (e.g. income distribution)	Perceived quality of society (e.g. perceived division between rich & poor)

Source: Zapf W., Habich, R., Böhnke, P., Delhey, J., 2002 In: Moller, V., Huschka, D., 2002

In order to assess the quality of life you have to oppose the objective living conditions and their subjective evaluation with the actual well being. According to Zapf and Glatzer four constellations can be distinguished (see table 2).

Table 2: Categories of individual welfare

		Subjective well- being	
		good	bad
Objective living conditions	good	WELL-BEING	DISSONANCE
	bad	ADAPTION	DEPRIVATION

Source: Zapf, 1984 In: Noll, 1996

This construct allows a classification of welfare positions. The preferred combination is the coincidence of good living conditions and positive well-being (= category "well-being"). The category "deprivation" explains the opposite constellation, when bad living conditions are combined with negative well-being. "Dissonance" describes the combination of good living conditions and dissatisfaction. In some literature this is called the "dissatisfaction dilemma". "Adaptation" means if despite of bad living conditions you are generally satisfied with your life. This constellation is also referred to as the "satisfaction paradoxon".

This means that if you want to make a statement about the quality of life situation of a country, you can say, the larger the proportion of the population in the category "well-being", the higher the welfare level of a society.

2.2.1.2 Quality of life aspects & Individual Needs

Another group of scientists put the satisfaction of individual needs in the centre of their quality of life reflection. Quality of life is expressed by the extent, to which individual needs can be fulfilled in different areas. In other words quality of life is defined as the sum of all goals, values and principles, which can be realised in the course of an individual's life (Wunsch, 2002).

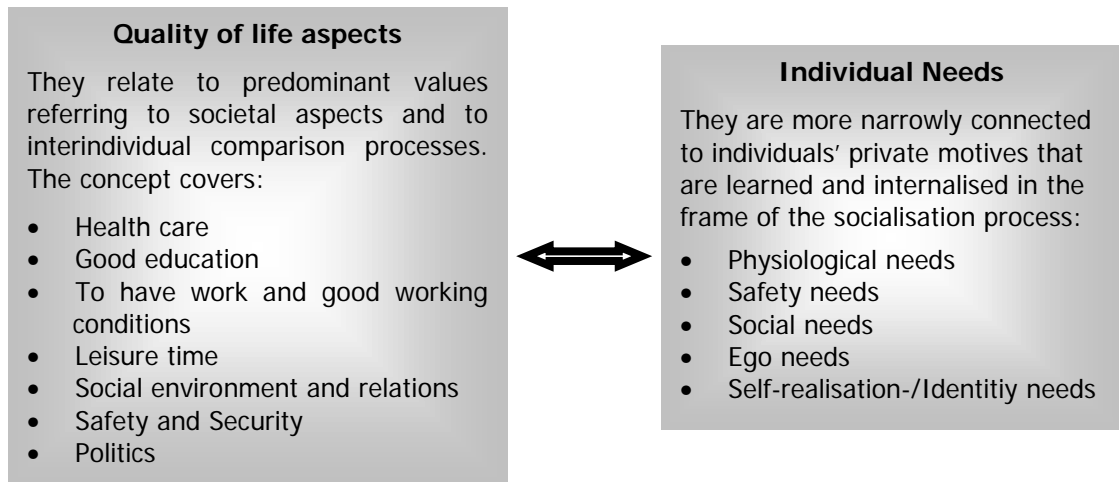
This means that if you want to improve the quality of life of any population you have to provide conditions, which allow to fulfil the needs of as many people as possible (Maderthaner, 1995).

In this context often the pyramid of needs by A. Maslow is mentioned or the model of Gasiet (1981), who differentiates between EGO-related needs (like basic physiological needs,

safety, avoidance of fear, curiosity) and group-related needs (like approval, autonomy, independence, prestige, identity, relations, communication).

Praschl et. al (1992) suggested two kinds of aspects, namely the more sociological “quality of life aspects” and the “individual needs” which have to be satisfied as a basic condition for quality of life (see table 3)

Table 3: A quality of life concept



The quality of life aspects are subject to an interindividual process of comparison. The individuals judge their living conditions with regard to certain standards e.g. if an apartment is well or badly equipped in comparison to other people's apartments (evaluation dimension). Besides they look if their living conditions represent their own personal wishes and needs (satisfaction dimension). In addition they react with positive or negative feelings concerning their living conditions (emotional dimension; Wunsch, 2002).

2.2.1.3 The Indicator dice by W. Baaske and R. Sulzbacher

W. Baaske and R. Sulzbacher define quality of life in their article about “Individual determinates of quality of life in Austria” (Baaske, Sulzbacher, 1997) according to W. Jucker (1987): Quality of life means to satisfy material as well as immaterial needs. This means they orient their concept of quality of life also on the needs of people

According to Baaske and Sulzbacher the term “quality of life” covers a variety of living domains. They differentiate between nine segments of quality of life:

- | | |
|---|--|
| <ul style="list-style-type: none"> • Life in general • Living conditions and living environment • Profession and working place • Health | <ul style="list-style-type: none"> • Safety and security • Leisure time and recreation • Financial situation • Personal view on the future • Family, neighbours and friends |
|---|--|

To measure quality of life means to oscillate between subjective well-being and objective measured data. E.g. the feeling of subjective safety does not compulsorily reflect the objective criteria like rate of criminality or accidents.

The effects of objective living conditions on the subjective well-being are distorted by two filters. Different living domains are judged individually, but influenced by reference persons or groups; e.g., a millionaire in a group of multimillionaires might be unhappier as a poor person in a group of hungry people.

Besides, each person weights his own living domains differently, e.g. for one person leisure time is the most important thing and for another person the profession. This individual assessment is influenced by culture, society and time.

In addition to these two filters there exist so called harassing factors, which influence the general well-being. The question is, by which means is the influence of objective living conditions on the subjective well-being weakened or strengthened?

Furthermore prosperity and quality of life are changing with regard to the contents, caused by technical developments, changes in values, policy or language.

With regard to the nine segments of quality of life mentioned above Baaske and Sulzbacher state that there are remarkable differences between the influence of the different segments on the quality of life. They define three conditions: Sufficient, necessary and linear conditions

Sufficient conditions are implications. The segments family, neighbours, friends and living conditions, living environment belong to this group: e.g. high satisfaction with the individual living conditions means automatically a high satisfaction with the life in general. To the **necessary** conditions belong the segments personal view on the future and financial situation: e.g. a pessimistic view in the future results in the discontent with life in general. Safety in the living domains, profession and working place, leisure time and recreation, condition of health are affiliated to the **linear** conditions.

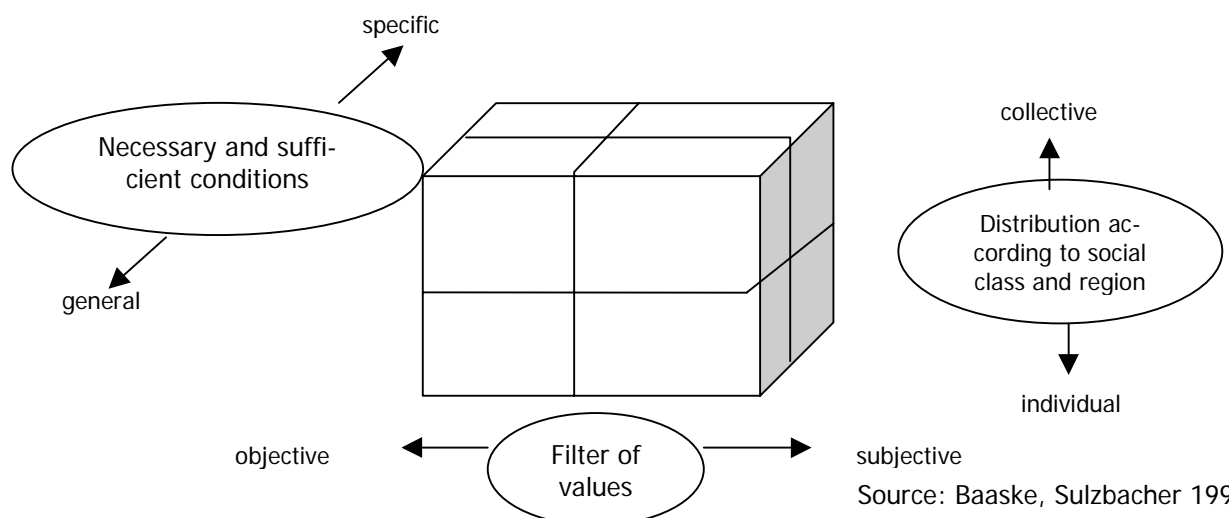
If the sufficient conditions are fulfilled no other factors are necessary to guarantee a high life quality. If necessary conditions are fulfilled, the life quality does not have to be high as other segments play an important role, too. But if necessary conditions are not fulfilled, a high life quality is impossible.

Furthermore the authors differentiate between three dimensions:

- general (e.g. satisfaction with life) and specific indicators (e.g. satisfaction with living conditions)
- objective (e.g. rate of unemployment or criminality) and subjective indicators (e.g. satisfaction with financial situation) and
- collective (describe the satisfaction of a group, region, nation, etc.) and individual indicators (describe the satisfaction of an individual person)

All these different aspects of quality of life were put together by Baaske and Sulzbacher in a quality of life model, which they called the indicator dice (see Fig.1).

Fig. 1: The indicator dice of quality of life



The following table gives examples, how to interpret the indicator dice (see table 4)

Table 4: Examples for the indicator dice of quality of life

Collective				individual			
objective		subjective		objective		Subjective	
<i>general</i>	<i>specific</i>	<i>general</i>	<i>specific</i>	<i>general</i>	<i>specific</i>	<i>general</i>	<i>specific</i>
Migration rate	Average apartment size, equipment, Unemployment rate	Life satisfaction	Sf% with living		Living conditions	Life satisfaction	Sf living
		Expressed assessment of quality of life	Sf% profession and work		Further education	Expresses assessment of quality of life	Sf profession and work
			efficiency motivation		Efficiency		
			Sf% health		Days of illness (-)		
	Life expectancy				Overweight, cholesterol (-)		Sf health, complains about stress (-)

Sf Satisfaction with

Source: Baaske, Sulzbacher, 1997

Sf% Percentage of population, which is satisfied with

(-) Negative indicator

The table 4 indicates that the indicator dice is very complex model for a quality of life assessment. It considers many aspects. On the other hand it is hard to follow up the model.

2.2.1.4 The Urban Ecosystem

The "Urban Ecosystem" method is an environmental-related method of assessing quality of life. It is an international strategy of assessment of sustainability and quality of life of a city or determined area. This research has been conducted in many countries around the world in the past ten years; it started with a work of the Yale University and Columbia University that produced the Environmental Sustainability Index and now is a protocol utilised by many different National Institutes, Universities and Governments (see Yale University 2001 and Legambiente 2003)

The urban Ecosystem collects data either through questionnaires and interviews to the administrations either through official statistical data. It consists of about more than 60 environmental parameters (like air pollution monitoring, quality of air, noise, quality of the water, water consumption, depuration, garbage, public transportation, urban environment, use of the land, eco management, etc.)

Random audit are conducted to check the reliability of the information provided by the administrations. The method is efficient and enough exhaustive for the assessment of the environmental related sustainability. It takes in consideration a variety of objective parameters and some subjective parameters of decision makers and administrators. In the parameters considered there is no yet investigation about the point of view of the users.

2.2.2 Health-related methods of assessing quality of life

As health plays an important role for the subjective well-being of an individual, quality of life is an important topic in medical research. But as in other fields (e.g. socio-economic research as shown in the previous chapter) there is no universal definition for quality of life in the medical area. Measurements of quality of life are carried out with diverse approaches and methods. Health-related measures consider the individual point of view. Among the components used in various studies are the following: general health status, functional capacity, emotional status, level of well-being, satisfaction, happiness, intellectual level, pain, level of symptoms, sexual functioning, social activity, memory level, financial status and job status (Prutkin, Feinstein, 2002). The components already show that today also in the medical area, objective and subjective indicators are used for the measurement of quality of life. In the following we will give only a very short overview of different definitions and models for quality of life used in the medical area.

2.2.2.1 The World Health Organisation (WHO) Definition

According to the WHO quality of life is defined as following:

"Quality of life is defined as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, and their relationship to salient features of their environment (WHOQOL, 1995, in: Wunsch, 2002).

This definition covers many aspects, which were already mentioned so far. First of all it underlines the subjective view, the "individual's perception" this means that quality of life has to be seen in the "eye of the beholder" (see p. 11). At the same time the cultural, social and temporal context has to be regarded. The "salient features of their environment" means basic material resources like drinking water, a place to live, etc..

2.2.2.2 Quality of life research unit, University of Toronto

The university of Toronto has carried out a great deal of work on the assessment of the quality of Life: they created the Quality of Life Research Unit in 1994, developing several methods for assessing quality of life. They have mainly focused on the health-related assessment of quality of life. Quality of life is defined as: *The degree to which a person enjoys the important possibilities of his or her life* (Brown et al. 1993)

Possibilities result from the opportunities and limitations each person has in his/her life and reflect the interaction of personal and environmental factors. Enjoyment has two components: the experience of satisfaction or the possession or achievement of some characteristic, as illustrated by the expression: "She enjoys good health." The conceptual framework has three life domains, each of which has three sub-domains. The indicators of the instrument are divided in three phases: being, belonging and becoming (see table 5)

Table 5: *Being, belonging, becoming – a quality of life model*

Being (who one is)	Belonging (connections with one's environments)	Becoming (achieving personal goals, hopes, and aspirations)
Physical Being <ul style="list-style-type: none"> • physical health • personal hygiene • nutrition • exercise • grooming and clothing • general physical appearance 	Physical Belonging <ul style="list-style-type: none"> • home • workplace/school • neighbourhood • community 	Practical Becoming <ul style="list-style-type: none"> • domestic activities • paid work • school or volunteer activities • seeing to health or social needs
Psychological Being <ul style="list-style-type: none"> • psychological health and adjustment • cognition • feelings • self-esteem, self-concept and self-control 	Social Belonging <ul style="list-style-type: none"> • intimate others • family • friends • co-workers • neighbourhood and community 	Leisure Becoming <ul style="list-style-type: none"> • activities that promote relaxation and stress reduction
Spiritual Being <ul style="list-style-type: none"> • personal values • personal standards of conduct • spiritual beliefs 	Community Belonging <ul style="list-style-type: none"> • adequate income • health and social services • employment • educational programs • recreational programs • community events and activities 	Growth Becoming <ul style="list-style-type: none"> • activities that promote the maintenance or improvement of knowledge and skills • adapting to change.

Source: NYCHPRU,1999

The extent of a person's quality of life in the areas of *Being, Belonging, and Becoming* and their sub-domains is determined by two factors: importance and enjoyment. Thus, quality of life consists of the relative importance or meaning attached to each particular dimension and the extent of the person's enjoyment with respect to each dimension. In this way quality of life is adapted to the lives of all humans, at any time, and from their individual perspectives.

This sensitivity to the specific life situations of individual people also presents a limitation, namely that people may be highly satisfied with the important possibilities of their lives within an environment that is of poor quality. This may result from people being unaware that better quality is possible, or from people being consciously aware that they have to suppress the importance of some possibilities because of their present circumstances. For example, people living in institutions may consider their quality of life to be good because they have had no opportunities to know other possibilities and have no power to effect change in any case. Thus quality of life needs to include the quality of the environment in which the person lives.

To address this, a quality environment is one which:

- provides for **basic needs** to be met (food, shelter, safety, social contact)
- provides for a range of **opportunities** within the individual's potential
- provides for **control** and choice within that environment
- has to preserved to make life of future generations possible

2.2.2.3 Other concepts

The following table 6 gives an overview of other concepts, which are used in the medical area.

Table 6: Different concepts for the Measurement of quality of life

level	content	characteristics	Operational field
General or global quality of life (QOL)	Statements about the general life situation	A single integrated indicator; not very sensible for changes	Medio-sociological, psychological and basic research
Health Related Quality of life (HRQL)	Statements about the general health situation	Multidimensional indicator profile, sensible for changes if there are health-related incidents	Comparison between different diseases
Disease Related Quality of life (DRQL)	Statements about specific hereditary due to specific diseases	Multidimensional indicator profile, sensible for changes if there are specific interventions	Comparison between different therapies
Utility Measurements	Statements about the meaning of specific diseases for the general life situation	A single integrated indicator for disease and quality of life	Health economy Comparison between different diseases or therapies

Source: www.charite.de/psychosomatik/pages/forschung/groups/leb_qual/methoden.htm

In the **general or global quality of life** theory quality of life can only be comprehended in its totality. Certain aspects which are important for the quality of life can be identified, but the construct quality of life is more than the sum of its different parts. Thus an important question to measure the quality of life of people is: How would you compare your present quality of life with your best and your worst time in your life? (Bernheim, Buyse, 1983).

The **health related quality of life** refers to the definition of the WHO mentioned above.

In the **disease related quality of life** theory all disease specific injuries are comprehended on the assumption that these injuries have a negative impact on the quality of life.

The **utility measurement** is a kind of combination between the QOL and DRQL theory. As instruments time-trade-off or standard-gamble-models are used. The patients are asked, how many years of their life they would "sacrifice", if they will be totally healthy again.

2.3 The Subjective Well-Being

In the centre of the psychology approach of the quality of life is the individual well-being, respectively the subjective well-being (SWB). The SWB resembles very much some definitions of quality of life. As our approach of quality of life in the transport, mobility and city planning area is user orientated and the subjective well-being plays an important role in these areas, we look in the following more deeply into the psychological view of subjective well-being.

Well-being - habitual or actual experience - is studied mainly in relation to physical and mental health, positive emotions such as feeling of happiness, self-confidence, optimism and pessimism. The considerable part of the research is exploring the relations among various indicators of habitual and actual individual well-being. Very important data has been brought by research dealing with relations between evaluation of individual well-being and social, economic and environmental conditions (e. g. how the feeling of economic insecurity relates to the individual well-being). The substantial part of research is dealing with the question of

how to explain the individual variations in reporting about their well-being. It was found out that the people with a high level of subjective well-being reported a strong sense of meaningful life, positive attitudes to the life, optimism, sense of free will and a high control of social environment. In vice versa, the feeling of inferiority, feeling of helplessness, depression, pessimism, a lack of free will are attached to a low level of SWB.

In terms of cognitive psychology high self-esteem, perceived control and optimism are three interrelated constructs due to each being has a positively biased cognition that contributes to a sense of SWB (Croft, 2001).

2.3.1 Positive psychology

In American psychology research on well-being of individual is driven mainly by a movement of positive psychology. Instead of dealing with the question what is wrong with humans, positive psychology turns a focus on the question what is right, what is strong in human beings. In other words, positive psychology emancipating from medical sciences makes a shift from the disease model to a model of flourishing. From its perspective an individual well-being cannot be completely understood without considering the goals towards each individual is striving for and the psychological activities which stand behind the successful adaptation (Emmons in Volz, 2000). Goal content, goal orientation and goal structure - each contribute to a sense of well-being.

Ryff and Keyes (1995) conceptualise six aspects of SWB: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life and personal growth. SWB is related to the common term "happiness" and it can range from depression to elation. It can have both affective and cognitive aspects. The cognitive aspects are the judgements concerning various aspects of life (e.g. family, job, education)

Ed Diener (1995) raised the question, whether positive personal characteristics, which are associated with SBW, are valid universally across cultures and life circumstances. He found out that individualism, human rights, social equality and high income are variables connected with SWB across countries. It can be said that in those societies where a dignity of individual is more fully recognised (individualism, human right, social equality) the people tend to express higher SWB than in societies where the welfare of the community is more important than the individual well-being.

Diener and Diener (1995) found out that the correlation between SWB and satisfaction with different aspects of life, such as the self, family and friend was higher in individualist than in collectivist countries. In poor countries satisfaction with finances was a better predictor of SWB than in rich countries. In rich countries, which are individualistic, there is much more emphasis on the self, freedom, and recreation.

On the basis of the findings it can be inferred that individualism creates conditions for more independent conception of self than collectivism does. Well-being is a state of mind which is widespread in affluent individualist cultures. This explanation corresponds with findings that people who consider themselves as agents are more satisfied with their life than those who see themselves as victims.

R.A. Cummins (1996, 2003), director of the Australian Centre on Quality of Life, claims that quality of life has to be measured both on objective and subjective level. Each measure comprises of seven domains which together define a total construct. Domains are measured objectively through culturally relevant indices of objective quality of life (e. g. gross national income per capita, life expectancy, number of physicians, teachers, crime etc) and subjectively through questions of satisfaction with the same seven domains from the position of observer of public life.

The above strategy of measurement can monitor judgement of the population about policy of the state and bring interesting data from a long-term perspective. However, it tells us about satisfaction in personal life:

It was noticed on the basis of careful examination of measurement of quality of life from subjective and objective perspectives, that the standard of living is improving, at least in developed countries but the subjective quality of life does not necessarily improve at the same time. Are people happier, more satisfied, more creative, more able to develop their potential? Are their relationships, work and leisure more satisfying? Do they find their neighbourhood and environment as pleasant to live in? Is there a supportive network of family, friends and neighbours to help them in old age or with childcare?

Social scientists try to go deeper to be able to provide answers to the above questions. There are many facets of good life. It is necessary to differentiate between satisfaction with conditions, with own achievements, with private life, with own personality. Private life depends much more on societal network, on life goals. Some people are more concerned about their intimate relationship, with their family, others are focused on their spiritual needs.

2.3.2 Social position and health

Sheldon Cohen (in Clay, 2001) has experimentally studied the impact of socio-economic status on the immune system's ability to ward off infections. His interest grew out of a study of stress and susceptibility to upper-respiratory infection among monkeys. Although stress had no effect on the monkeys' susceptibility to the virus researchers exposed them to, it turned out that their position in the monkey hierarchy did. The more subordinate the monkey, the more likely it was to succumb to the virus. Participants in his research with human beings were asked to mark a rung on a picture of a ladder to show where they think they are in terms of their community and their country. People who put themselves on a low status rung were at very high risk of developing infections. Cohen has also taken a closer look at specific markers of social status. In one study, for instance, he found that people who are underemployed or unemployed were four and a half times more likely than other participants to get sick when exposed to a virus.

The analysis of the empirical data collected within the U.S. revealed that the higher the person's position in a social structure, the higher is the person's level of idiocentrism (Triandis, 1995). It indicates that the upper income groups enjoy much more control of their life compared to those on lower status. That is why they feel to be more independent. It is important to be aware of the fact that such an explanation is valid only in individualistic countries where values such as self-independence, autonomy, mastery are appreciated higher than dependence and emotional attachment. Kohn and Slomczynski (1990) confirmed that also in other cultures the higher a person is positioned socially, the more feeling of self-determination that person has. Therefore, high self-determination can provide a way how to achieve high SWB.

2.3.3 Liveability, Good society and cultural framework

Weenhoven (1995) exploring factors of greater SWB in developed countries, uses the term "liveability". "**Liveability**" can be indexed by real income per capita, social security, gender equality, freedom of the press, political democracy, high levels of education, media attendance etc. It covers not only economics, but as well politics and societal institutions. Diener (1995) developed a very similar concept. He proposed **life index** which covers such statistical data such as: number of physicians per capita, college attendance rates, income equality, number of environmental treaties, monetary saving rate, and purchasing power parity. As it was found, the index was related to income levels. The countries that had income of about 40 percent or less than the U.S. standard had lower life index, showing no asymptote at high

level of income. Also Staundinger, Fleeson, and Baltes (1997) found that socio-economic conditions are related to SWB both in Germany and the USA. Slottje, Scully, Hirschberg, and Hayes (1991) developed the **index of societal conditions for life** which consists of: medical care, political rights, male life expectancy, infant mortality, calorie consumption, female literacy, and gross domestic product. Their general conclusions confirmed previous - the economically developed countries create better conditions for life than less developed. SWB has positive correlation with the amount of education, income, employment and health status and a negative correlation with unemployment, suicide war, violation of civil rights, riots, income inequality, oppression of the political opposition, undemocratic government, and the like verifies previous conclusion(Moum, 1996).

In summary the data confirm what is taken as truism in other branches of research that societal conditions including economic issues contribute to SWB on general level.

Triandis (1994) distinguishes the analysis of data on subjective well-being at of the cultural (societal) level from analyses at the individual level. His definition of culture is statistical - means represent cultural level. He is interested how much the objective data such as a gross national income per capita, average longevity, and expenditures on the environment as a percentage of national income are corresponding to SWB. At the individual level, he is interested in how SWB is determined by the attitudes, beliefs, perceptions, and values of an individual. As he noticed, the results obtained at the cultural level can vary greatly from the results obtained at the individual level of analysis.

An explanation of higher SWB in individualistic countries compared to affluent collectivist countries was suggested by Triandis (2000). As he noticed bureaucrats in individualist countries meet the needs of the of citizens to a larger extent than bureaucrats in collectivist countries. According to Triandis it is because they stick to the principle of universality (=deal with everybody equally). They developed rules of everyday routines which adhere to this principle. Such practices are more transparent and simple. Individualist countries are dominated by private enterprises which increase their profits when they provide conveniences. Conveniences may include long opening hours of stores, a quick service, supermarkets that make it possible to buy everything required in one place. All these conveniences contribute to the SWB.

The results of cross-cultural research show why it is important to be aware of the cultural differences. People in individualistic cultures are socialised in different way than people from collectivist cultures. There are many differences in monitoring oneself, building positive self-image, self-esteem etc. To be content, active, optimistic, in good mood - it is the cultural expectation in individualist culture. To be oriented towards others, to fulfil requests posed by authorities, to be caring for people on higher position, to be sensitive to their needs - this is expected in collectivist culture (especially in the case of women).

As a summary, the following table (see table 7) gives a general view of conditions which influence the SWB on the cultural and on the individual level:

Table 7: Conditions, which influence the SWB on the cultural and on the individual level

	Cultural level	Individual level
Positive influence on the SWB	<ul style="list-style-type: none"> - high gross national product per capita - political freedoms - social equity - social security - satisfactory citizen-bureaucrat relationship - high levels of interpersonal trust - efficient public institutions (health, education, transport, civic servants, local government, government). 	<ul style="list-style-type: none"> - good health - enough education - fit between personality and culture - openness to new experiences - extroversion - conscientiousness - environmental mastery - personal growth - purpose in life - self-acceptance - sense of self-determination - opportunities to compare oneself to others - having many acquaintances - social support from many friend (allocentrism) - less stress - belonging to a liked group
Negative influence on the SWB	<ul style="list-style-type: none"> - civil and international conflict - oppression of the political opposition - undemocratic government - vulnerabilities (e. g. floods). - petty bureaucrats 	<ul style="list-style-type: none"> - loneliness (consequences of idio-centrism) - high stress - unemployment - poor health - poor personality

2.4 Sustainability and quality of life

Quality of life is closely linked to a sustainable behaviour. Above all in recent decades there has been noticed and recorded an increasing number of environmental disasters. Health problems due to the increased level of air pollution, a lower quality of water and contaminated food become almost epidemic. Also demographic data urged us to turn our focus on non economic issues. We are becoming more aware of dependency of human being on the quality of natural and social environment.

Discussions, particularly in richer countries, have been focused mainly on environmental limits. It has been pointed out that the future economic development is not sustainable without caring about environment. On the individual level higher income does not necessarily mean higher quality of live. Further improvement of our living conditions does not depend solely on the efficiency of economy. It is evident that we must change some rules of economy. Recognition of new challenges is reflected in the concept of quality of life. This concept is much broader than standard of living. However, it does not mean the opposite.

Some of the modern ideas related to sustainability began with Aldo Leopold. He raised concern for an environment's carrying capacity already in 1949 (Leopold, 1949, in: Shafer et.al., 2000). Although there is no agreement on the definition, the term "sustainability" is generally defined as the effective use of natural, human, and technological resources to meet today's community needs without compromising the ability of future generations to meet their needs (The UN World Commission on Environment and Development, 1987).

The main challenge is to prevent deterioration of the quality of environment. It does not necessarily mean renouncing on the further economic growth. As we shall see it means a new type of economy.

The complexity of the problem is recognised not only by the academic community but by governments as well. For example, the prime ministry of the UK expressed its view in this respect in the following way:

"In our own lives, we know the value of money. We know it can bring comfort, security, and new opportunities. But we also know that money isn't everything. Feeling safe on our street or in our homes. Enjoying our rich and diverse countryside. Knowing that a modern and dependable National health service is there when you need it. Living in strong communities. These all matter too" (*UK Government sustainable development, [http://www.sustainable-development.gov.uk/sustainable quality9...](http://www.sustainable-development.gov.uk/sustainable%20quality9...)*).

This could as well be seen as a definition of quality of life.

2.4.1 The concept "quality of life" in political thinking

Behind a considerable variability among individuals in their capacity to create and maintain their own well-being, there are environmental, economic, social and societal conditions on which individuals depend on. It could be said that conditions create a soil for flourishing of human beings. In other word, well-being of the individuals, their quality of life is related with the type of policy which is or not creating favourable living conditions. It is not matter only of economy but as we already argued it is also a question of societal conditions (freedom, equal rights, fairness). In general, it is democracy, freedom and respect to the individuals which create favourable societal conditions. The present state of knowledge is far away from full understanding of the exact nature of inter-dependence between policy and individual well-being. Many linkages between individual quality of life and the policy of the country are not yet fully explored.

The exploration of the inter-dependence of different levels of societal, social and biological life has theoretical, methodological and practical aims. Firstly, it could contribute to our understanding why the quality of life assessed on the macro- and meso-level does not mean the same on the individual level. Secondly, it could increase a pragmatic and ecological validity of the indicators in the evaluation of well-being of individuals and of liveability of a particular country, region or community. Thirdly, it could provide arguments why it is important to create a space for participation of citizens in decision making on national and local policy (related to various issues e. g. environmental issues, transport issues etc.).

Politicians become slowly more aware of fact that the economic competitiveness of their country depends also on the quality of human potential. Thus along with **sustainability of the environment** they begin to care about sustainability of so called "**social and human capital**" (quality of parenting and education, health services etc).

It is still not admitted, that not everything that is good for increasing economic productivity (through higher competition, better education and more intensive and productive labour) is good from the perspective of reproductive behaviour, generational transfer of culture (morals, values, habits, style of life) or from the perspective of sustainable life of families, local communities or from the perspective of sustainable development of the natural and urban environment. Politics, as we shall see below, pretend that there are no tensions among different perspectives. According to politicians it is purely a matter of the reasonable balance among different perspectives. However, according to our view it is also a matter of better knowledge. It is hoped that the integration of different fields of expertise (e. g. anthropology, economy, sociology, psychology, pedagogic etc) might help. Another way to increase our knowledge is dialogue with those experts who are practically dealing with the issues of improvement of quality of life in various fields of public life: e.g. health care, transportation,

urban planning, education, security. Still another option is to be more sensitive to the voices of people, to study their needs in a particular cycle of life.

If we consider quality of life from a macro perspective, referring to the whole society, then we have to make a choice between two strategies. One strategy is purely descriptive and quantitative. It deals with problems of liveability from outside - with "objective" parameters of the natural and the social environment. It takes into consideration only data which are measurable (e.g. the size of population, size of pollution, amount of produced waste, gross domestic product, number of flats, houses, schools, number of equipment in households etc). The strength of the descriptive and quantitative approach is that the indicators can easily be compared between different periods of time and among countries. This helps to see those consequences of human activities which were not expected (e.g. ozone hole). The problem is that such a procedure produces a lot of data and no way how to grasp their complex (synergy) effect on quality of life from the human perspective.

The other strategy is based on political consensus on a list of desirable objectives. Once the guidelines for a country and its regions are envisaged, negotiated and agreed upon, then it is clear what objectives are desirable, per definition so to say. Human perspective is established. From the set of objectives these activities are derived which should be done by governments, by communities, by the business sectors and by individuals. In addition, such a programme provides a baseline for the judgement of success of a government and its policy. It makes activities of the government more transparent and enables to make a judgement how much and in what sense a governmental policy contributes to the improvement of conditions. Success can be measured as distance from the desirable objectives. In addition, common programmes allow to address a general public to participate in changes. Because of that this strategy is of a high pragmatic and mobilising value. It helps to co-ordinate the activities on different levels. However, such a strategy has also its weak points. There is a danger that a policy will be short-term oriented, neglecting issues which are not easily handled. It may leave unnoticed "objective" data, e. g. changes in the environment unconsidered. It does not solve the problem that better conditions (economic, environmental) do not mean necessarily better quality of life. However, there is a potential to mitigate the gap between living conditions and quality of life.

Because of these short-coming, it is better to use both strategies - descriptive (scientific) and intentional (policy). The main objective is clear: to improve the life conditions for human beings and to keep development in economic, environmental and social spheres sustainable, not least by making citizens participate in connection with the implementation of strategies. How well this goal is reached depends on political will and consensus.

In the following we will look how quality of life is conceptualised in political programmes. We deal especially with a programme of the British government and with the main ideas of Canadian leaders.

2.4.2 A better quality of life: a strategy for sustainable development (SD) for the United Kingdom

The programme of sustainable development (SD) was approved as a guidance principle by the British government in 1999 (UK Government sustainable development, [http://www.sustainable-development.gov.uk/sustainable quality9...](http://www.sustainable-development.gov.uk/sustainable%20quality9...)). It established equivalence between quality of life and SD of living conditions. The programme which declares to ensure "*a better quality of life for everyone, now and for generations to come*" has to meet four objectives:

- social progress which recognises the needs of everyone
- effective protection of the environment
- prudent use of natural resources

- maintenance of high and stable economic growth and employment.

The indicators of quality of life are formulated in such a way that they help the government to assess and plan its own activities. Being widely published, they help people to understand how they can contribute to achieve a more sustainable development, through their work and their personal lives.

The programme identified a core set of about 150 indicators of SD, whereas it covers the social, economic and environmental dimensions of SD.

Table 8: Headline indicators in the UK sustainable development strategy

Themes, issues and objective (strategy reference)	Headline Indicators
<i>Maintaining high and stable levels of economic growth and employment</i>	
our economy must continue to grow	total output of the economy (GDP and GDP per head)
investment (in modern plant and machinery as well as research and development) is vital to our future prosperity	total and social investment as a percentage of GDP
maintain high and stable levels of employment so everyone can share greater job opportunities	proportion of people of working age who are in work
<i>Social progress which recognises the needs of everyone</i>	
tackling poverty and social exclusion	indicators of success in tackling poverty and social exclusion (children in low income households, adults without qualifications and in unemployed households, elderly in fuel poverty)
equip people with the skills to fulfil their potential	qualifications at age 19
improve health of the population overall	expected years of healthy life
reduce the proportion of unfit housing stock	homes judged unfit to live in
reduce both crime and people's fear of crime	level of crime
<i>Effective protection of environment</i>	
continue to reduce our emissions of greenhouse gases now, and plan for greater reductions in long term	emission of greenhouse gases
reduce air pollution and make sure that air quality continues to improve through the long term	days when air pollution is moderate or higher
improve choice in transport, improve access to education, jobs, leisure, and reduce the need to travel	road traffic: mode choice, overall mobility, travel speed
improving river quality	rivers of good or fair quality
reverse the long-term decline in populations of farmland and woodland birds	populations of wild birds
re-using previously developed land, in order to protect the countryside and encourage urban regeneration	new homes built on previously developed land
<i>Prudent use of natural resources</i>	
move away from disposal of waste towards waste minimisation, reuse, recycling and recovery	waste arising and management

Source: (UK Government sustainable development, <http://www.sustainable-development.gov.uk/sustainable-quality9...>)

As key economic indicators were selected:

- the unemployment rate,
- the overall growth in the economy
- rate of inflation.

The primary purpose of the indicators is to monitor, and to report on progress towards sustainable development, both within the UK and to international organisations.

SD is characterised as the development in which total "welfare" is not decreasing over time. Total welfare consists of qualities of three different resources: **economic capital, human and social capital** (e.g. skills and knowledge, health, social networks of people and community) and **environmental capital**. Neither of them should be decreasing. "**Capital**" refers both to the stock and the quality of the resources. For example, the skills, health and knowledge of the population, and the quality of air and other natural resources could be considered.

As it has been agreed upon it is not possible to measure the total stock of capital directly, because everything is not possible to be transferred into monetary value. Monetary valuations of environmental capital are, of course, controversial and are not widely accepted. It depends on the hierarchy of values of those who assess, and on their perspective. However, the indicators can at least illustrate the extent to which different aspects of economic, human, social and environmental capital are improving or deteriorating.

Each core indicator in the programme of SD is associated with an objective, to demonstrate the direction in which it would be desirable for it to move. Some of the objectives and indicators are linked to specific targets. To achieve SD means to integrate the various objectives, but it should not be simply a summary of the particular factors.

An organising framework is designed to help highlighting the key areas and priorities, and the links between the issues and the indicators (= indicator framework):

Sustainable economy covers efficient use of resources, economic stability and competitiveness, education and skills of the populations, employment and equal opportunities, ethical trading, action by producers and consumers in priority areas: the home, home appliances, nourishing, personal transport, tourism and leisure.

Building sustainable communities covers local economic vitality and equity between communities in the UK, health, access to services, culture and sport, housing, planning and design, local environmental quality, criminality rates, institutional arrangements and participation,

Managing the environment and resources indicators cover persistent pollutants, climate change and energy consumption, air quality, fresh water, seas oceans and coasts, soil, landscape and wildlife, forests, minerals extractions and use.

Sending the right signals - it means indicators on the mechanisms by which SD can be put into practice, through the government setting an example, through policy instruments like taxes and regulations, through information and campaigns to change people's behaviour.

International co-operation and development - measures of global population and global poverty, aid to developing countries, implementation of international agreements, comparison of UK resource consumption with other countries.

British programme of SD included also a number of indicators relevant for the transport area (see table 9)

Table 9: Indicators of sustainable development in transport policy

headline	indicators
Sustainable economy	<ul style="list-style-type: none"> - social investment as a per cent of GDP - consumer expenditure - energy efficiency of road passenger travel - average fuel consumption of new car - sustainable tourism - leisure trips by mode of transport - overseas travel - freight transport by mode - heavy goods vehicle mileage intensity
Building sustainable communities	<ul style="list-style-type: none"> - road traffic - passenger travel by mode - how children get to school - average journey length by purpose - traffic congestion - distance travelled relative to income - people finding access difficult - access to services in rural areas - access for disabled people - new retail floor space in town centres and out of town - noise levels
Managing the environment and resources	<ul style="list-style-type: none"> - carbon dioxide emissions by end user - concentrations of selected air pollutants - emissions of selected air pollutants - sulphur dioxide and nitrogen oxides emissions
Sending the right signals	<ul style="list-style-type: none"> - prices of key resources fuel (petrol/diesel, industrial/domestic) - real changes in the cost of transport - public understanding and awareness - individual action for sustainable development

Source: (UK Government sustainable development, [http://www.sustainable-development.gov.uk/sustainable quality9...](http://www.sustainable-development.gov.uk/sustainable%20quality9...))

2.4.3 Canada's Forum on standard of living

Canadian discussion on the standard of living consists of a wide panel of experts. Its organisers brought together leaders from business, academy, government, labour and the non-profit-organisation sector. The objective was to draft a strategic blueprint for raising Canada's standard of living to a level surpassing that of the United States within fifteen years. The forum took place in Ottawa, October 9, 2002. The five common themes that emerged from discussion were: 1. Leadership, culture, and attitudes 2. Human capital 3. Smart social policy 4. Strengthening the national economic and social framework 5. Redefining external relationships.

As we can see the concept of "standard of living" is used to cover all necessary changes in policy to create favourable conditions for increasing an economic growth. The economic growth is seen in vital connection with quality of services and especially with high quality of human capital (able to compete on the international market). It is also connected with a quality of public life (including culture and politics). The main objectives which have been related with policy towards a better quality of life are identified as follows: to protect Canadian health care system, culture, the social safety net, and to increase the ability to provide Canadian young people with jobs right at home. In order to achieve these objectives it is believed that it is necessary

- to reduce national debts,
- to introduce more competitive tax system,
- to increase investment in education, research and technology development and innovation,
- to increase collaboration between government, business and academia.

The speech of the main designer of the forum - A. Charles Baillie (2001) confirms that Canadians aspirations go far beyond pure economic goals. He focused on matters such as quality of health care, functioning cities, rewarding jobs, and a fair and tolerant society. According to him and other speakers, a quality of living conditions should be the brand identity of Canadian people.

According to the assessment of Baillie (2002) Canada, the most liveable nation in earth according to the United Nations surveys, achieved top rankings because it married the dynamism of the U. S. economic model with the social cohesion of the continental European systems. He believes that a success in the New Economic Order requires preserving and promoting both **economic competitiveness** and **social cohesion** as twin societal objectives. It is a matter for discussion and further investigation how the two objectives can be simultaneously achieved. His vision for 21st century Canada is the following :

Design a sustainable, social inclusive and internationally competitive infrastructure that ensures equality of opportunity for all Canadians to develop, to enhance, and to employ in Canada their skills and human capital, thereby enabling them to become full citizens in information-era Canadian and global societies (Baillie 2002).

The equal opportunity for all Canadians to access the information and training of their skills has to be conceived as a basic condition for the New Global Order.

In relation to globalisation of economy it was pointed out that Canadians as a nation, and as business leaders need to be more confident in their abilities to succeed on continental markets (predominantly that of U. S.). They need to shake of their Canadian inferiority complex, look beyond provincial borders, and go head-to-head with business wherever the opportunities arise (**self esteem**).

Canadian leaders are aware of the fact that to increase the competitiveness of Canadian economy is not possible without changes in policy. However, necessary changes are often not supported by the public. Culture of exploration of new opportunities is still missing. Canadians would maintain their quality of life without changing their habits. To change people's mind a dialogue is needed. A constructive participation in the project about future perspective presupposes a mutual trust between public and government (Daniel, 2002). In this sense quality of life is something more than the sum of economic, social and environmental indicators. It is something that is created in public space, between government and people, within communities and families. That is why the quality of policy plays a most important role. Open and trusted relationships between various level of institutions and individuals are essential. Therefore trust into the various type of institutions (including government) and a way how business is accomplished are very good indicators of liveability. (That is probably the reason why the questions about trust are constantly included in the EURO BAROMETER surveys).

John Godfrey (2002) in his paper entitled "Standard of living or quality of life: Does one come first?" argues that the real endgame should not simply be standard of living. Economic growth for its own sake is not truly the desired outcome. According to him, quality of life is the sum of factors that contribute to the social, economic and environmental well-being of citizens. Improving quality of life means improving the social, economic and environmental conditions that make life worthwhile for citizens. He pointed out that the concept of standard

of living denies the complexity of what individuals and communities need in order to be able to fulfil their potential. In this sense it is both narrow and limiting.

According to Godfrey, indicators of quality of life are the following:

- social infrastructure such as affordable housing,
- child care,
- high quality health care, schools and universities, which in turn create a population of healthy, well-educated, and productive citizens.

He admits that income is an important part of the story if poverty leads to a poor quality of life. However, it is far from being the only factor. Overwhelming body of research proves that adults' opportunities begin - or end - in their formative early years. The family is the locus where human capital begin to develop.

Godfrey's turning focus on people's judgement of values in life could be easily connected with a psychological perspective. One should ask in what sense life is more or less worthwhile? From which framework, from whose perspective? It suggests that quality of life does not mean only conditions of life but it includes also people's values and goals. To design strategic plans for future development of the country it is important to take into account its culture as a set of values, attitudes and opinions. This demands high quality of policy as well as continuous dialogue between government and public in which both partners are learning to see the issues from different complementary perspectives.

Without dialogue, which helps in building well-informed communities, there is a risk of deepening misunderstanding between government and citizens. Globalisation of economy makes the risk of conflicts and mistrust even more plausible. To be successful in economic competition means to promote principles which do not serve very well for the purpose of community cohesion. Principles of equity support social cohesion much better. Rodrik (in Courchene, 2002) points out that the main challenge is *insuring that increasing international economic integration does not lead to increasing domestic social disintegration*. Godfrey (2002) is underlining that improving quality of life does not happen by chance. It is a deliberate process that requires action in connection with a common purpose on the part of citizens and their government through public policy.

From this perspective it is understandable why Godfrey (2002) does not support policy which see as the potential saviours of Canada the investment in physical infrastructure and lower taxes. He refers to emerging consensus that new roads and other physical infrastructure do not generate much economic growth. Instead of putting capital into physical infrastructure, he suggested to invest capital in people to increase their value of human capital on international competition. He argues that the basics - good schools, safe streets, efficient services, a functioning real-estate market - determine where business invest and where people choose to live. However, one should add that firstly people have to have a right to make decisions themselves. This especially requires basic conditions: e.g. the accessibility of variety educational and other services. It also depends on developed infrastructure, including transport preconditions.

If we agree with the importance of human capital, quality of life should be estimated not only in terms of individual well-being but also from the perspective of the social cohesion of families and communities.

2.4.4 Indicators of liveability

While Great Britain refuses to use one aggregate indicator of environmental quality of life, the United Nations use the "**human development index**" (HDI) which is a composite measure reflecting **life expectancy, educational standards and average incomes**. Each of the components in the index is given equal weight and it is particularly intended for measuring progress in developing countries (2003 <http://www.sustainable-development.gov.uk/sustainable/quality9...>).

Eurostat, the Statistical Offices of the European Communities, is developing "**Environmental pressure indices**" in which selected indicators in ten key areas are weighted together to produce an aggregated measure of progress in each area. The indicators and weights were chosen on an expertise basis by a panel of experts. Its validity is inter-subjective.

Another type of index consists of "**Green national product**" in which economic output is adjusted for changes in environmental capital (resource depletion and environmental pollution or more usually, the estimated costs of remediating environmental pollution) and social capital (such as health, income differences). In this approach, the components are valued in monetary terms (British government).

A number of models have been proposed in order to develop indicators, and illustrate the links between issues, particularly with respect to environmental indicators. The best known of these is the "Pressure, State, Response" model developed by the OECD. This is also the basis of the United Nations Commission for SD. It has been adapted by the European Environmental Agency to form the "DPSIR" model: Driving forces, Pressures, State, Impact, Responses (British government).

In both the PSR and the DPSIR models **growth in traffic** is seen only as pressure on the environment. But as it is argued in the British programme of SD, it is people's desire for access - to goods and services, to work, to social and leisure opportunities - which is the underlying drive, not the desire to travel in itself. It is necessary to acknowledge that increased welfare (or increased human capital) is connected with improved access. However, it is also necessary to think about limits, otherwise the sustainable development of environmental capital could not be achieved. Access can mean many different things, not only access by individual motorised transport.

2.5 Summary

The following points can be summarised from the discussion about quality of life so far:

- **History:** The term quality of life has a relatively short history. In the peak of the quality of research in the 1970s two different traditions of applied quality of life research emerged: The Scandinavian quality of life approach, which focuses on objective living conditions and the American quality of life approach, which analyses the individuals' subjective experience of their lives. Nowadays the quality of life research is in most cases based on both objectives and subjective indicators. The term quality of life is almost used inflationary.
- **Assessment:** There are hundred of different definitions of quality of life, but no single definition covers the widespread field. Besides, different disciplines uses different approaches, whereas within the disciplines different models of quality of life assessment are used. In general all models consider the objective and the individuals' perspective. The fulfilment of needs seem to be a core element of quality of life models. Looking at the different models from the socio-economic or health-related quality of life research one can summarise that all indicators defined refer to more or less four dimensions:
 - **Social dimension:** The social dimension covers all aspects from health, social relations, mobility, social statues, etc.
 - **Political dimension:** Under political dimension all aspects are summarised that belong to a political system, e.g. political stability, possibility of participation, quality of social services, tax systems
 - **Economical dimension:** To the economical dimension belong for instance the use of resources, economic stability and competitiveness, employment.
 - **Environmental dimension:** The environmental dimension covers, aspects like the prudent use of resources, sustainable transportation, waste minimisation.
- **Subjective Well-Being:** A high level of subjective well-being is a precondition for a high quality of life. The subjective well-being is influenced by many factors like cultural aspects or the social position. In affluent individualistic countries, where human rights are respected and a form of social equity exists, people tend to have a higher level of subjective well being than in countries with collectivism. Concerning the social position the higher the person's position in a social structure, respectively the higher the possibility of self-determination the higher in general the level of subjective well being.
- **Sustainability:** A high quality of life is linked to a sustainable behaviour. A sustainable behaviour has to be achieved in the four dimensions mentioned above: Social dimension, political dimension, economical dimension, and environmental dimension. Above all the social dimension became of increasing importance in the last years. A core element for a sustainable development is to let people participate in the public processes. There has to be a permanent dialogue between the government and the citizens, respectively the communities and the citizens.

3 Quality of life and its relation to traffic, mobility and city planning

As we have seen from the previous chapter quality of life is a complex term, which interferes in all parts of our life. Also in the transport, mobility and city planning area the keyword "quality of life" has become of increasing importance. If you search in the internet for the keyword "quality of life + mobility" you get thousands of references. However, if you look at the references in detail you realise that "quality of life" is quite often used more as a headline above all in the traffic and mobility area. Quality of life is not as operationalised as in the other fields. You find statements like "more mobility = more quality of life" "quality of life through mobility", in many articles quality of life is not even defined, though. Especially in "political papers" like master plans or implementation guidelines you find statements like ".... all this is done in order to improve the quality of life in our city" (see for example Wiener Verkehrskonzept 1994). For example, we have found the case of the Austrian Village where quality of life was only covered by questions about the satisfaction with shopping, leisure time possibilities, satisfaction with the restaurants and with events happening in Langenlois (Herry, 2002).

On the R.I.O Management Forum 99 about quality of life and mobility the president of R.I.O IMPULS Engelbert Ruoss said that in the future the quality of life on our planet will depend on the kind of way people deal with their need of mobility. The present technical mobility can not be sustainable (Ruoss, 1999). This statement underlines the assumption that there is really a strong connection between the quality of life of people and the way how they move: Transport, mobility and city planning have a great impact on the quality of life of individuals.

In the following we will give a short general view of the main aspects in connection with transport, mobility and city planning which are mentioned in the literature with regard to quality of life.

3.1 Transport and mobility with regard to quality of life aspects

Mobility, how people move around is a transversal issue that covers basically almost all the activities of a normal person, whether it moves for work, leisure, access to services etc. There are many strategies to implement mobility: we can reduce the need of mobility by e.g. improving the local services or planning a better distribution of the activities or we can improve the mobility investing energies on alternative means of transportation, as public transportation, bicycling, car pooling etc.. In any case the mobility does affect the everyday life and influence the general "quality of life of the citizen.

So are many segments of life mentioned e.g. by Baaske (comp. p. 14) like living conditions and living environment, safety and security, leisure time and recreation, health, profession and working place in some or the other way influenced by transport, mobility and city planning conditions.

Looking at the objective indicators like GNP and economic growth rates the car industry seems to contribute in a positive way to these indicators. On the other hand the development in traffic, especially the increase of car traffic has a negative impact on the living environment on the health of people, and by these means on the quality of life.

Take for example air pollution: Air pollution is the most serious environmental problem. Road traffic is responsible for more than 50% of all noxious emissions. According to an Austrian-Swiss-French study more than 2400 precocious casualties per year in Austria are caused by the environmental impact of road traffic (Filliger P. et al., 1999)

Or take noise: More than half of the Viennese population feel disturbed by noise, and the main ingredient there is traffic noise (Die Presse,1998). Disturbance by noise is a crucial point, which influences how the living area is judged. According to a study of the research institute "Market", more than one third of all questioned people, who lived in areas with heavy traffic, assessed their own living area negatively. 84% said that a main criteria for a good living area is silence or the absence of noise (Risser, 2000).

Köppl et al. (1999) summarise the following areas which are related to traffic and at the same time to the quality of life:

- Energy consumption
- Air pollution respectively air quality
- Physic and psychic health problems
- Danger of accidents
- Travel speed
- Traffic volume

Risser (1990) mentions in his book about "Road traffic and quality of life" some more issues, which can be used as indicators for the quality of life with regard to traffic: Noise, smell, restrictions for the movement, fear, accident risk, health hazards, possibilities and alternatives, mobility for all road users, capacity of traffic, fluidity of traffic, etc..

In order to be able to determine variables, which describe what is acceptable, positive or desirable, Risser introduces four dimensions, which are usually used for the evaluation of the consequences of the road traffic:

- **Economical dimension:** This dimension includes political economy costs like accident costs, costs for the construction and maintenance of buildings, etc..
- **Individual dimension:** Variables, which allow to assess road traffic with regard to physical and social/structural aspects, this means how individuals can cope with the situations. This includes personal perception of safety, personally felt hazards by noise, smell, design of road space, lack of alternatives, etc.
- **Communicative dimension:** How does the communication influence the social climate?
- **Objective measurements:** Objective measurements are above all used in the traffic safety area like accident figures, traffic conflicts, speed, waiting times, values of environmental impacts.

As seen from these dimensions Risser includes in his concept objective as well as subjective aspects of quality of life.

Hakamies-Blomqvist et al.(1996) define seven quality dimensions which are relevant to the subjective well-being of road users and to the choice of mode. The subjective well-being resembles very much some definitions of quality of life.

- **Social Climate/Equity:** In no area of life people want to be treated worse than others. (see also p. 21). In the choice of mode of transport it is well known that a change from driving a car to riding a bicycle fails because people do not want to become “second class road users”, which is often perceived in connection with such a change.
- **“Objective” Safety:** In the Maslow pyramid the safety needs are on the second level. This means the feeling of safety is a fundamental need for the subjective-well-being. It is important to know facts concerning numbers of accidents connected to a certain mode.
- **Security:** Not only “objective” safety is important (e.g. low accident rates) but also the “subjective” safety is relevant for the subjective well-being, e.g. the fear to walk around at night time as the public lighting is insufficient, the fear of an accident when children go to school without their parents
- **Mobility:** In order to provide for themselves, people have to be mobile. “Providing for oneself” is everything from working and obtaining food to maintaining social contacts and cultural activities. Mobility on the micro level means that all road users want to move smoothly and do not want to be affected by barriers when crossing the road, by waiting times at traffic lights, by the length of routes, by fear of accidents which leads to a reduction in mobility
- **Comfort:** In chapter 2.3.3 “Liveability. Good Society and cultural framework” (see p. 21) it was mentioned that conveniences contribute in a positive way to the subjective well-being. Comfort is a very important aspect, which proves to be, for example, one of the main characteristics of the household machinery. Everything is aimed towards making day to day life more comfortable and this is relevant in the traffic area, too. Mobility has to be comfortable and barriers should be avoided like steep sloping or high kerbs, bus stops should have weather protections, short crossing routes over crossings, etc..
- **Aesthetic and environmental quality:** Attractive lay outs, reduced noise, good air, etc. have a positive impact on the quality of life
- **Cost aspects:** The fact that things must, or should provide pleasure is expressed indirectly in all contexts. Changes in behaviour, which lead to an increase in costs will only take place if one also “buys” other advantages such as pleasure with it.¹ For example, unlike car drivers (e.g. tax reductions on company cars) pedestrian and cyclists are hardly offered any financial support.

These dimensions reflect aspects of quality of life with regard to traffic and at the same time with regard to sustainability. In other words a sustainable mobility is closely linked to quality of life aspects. According to the climate protection programme of the city of Vienna (www.eva.wsr.ac.at/klip) a sustainable mobility means to guarantee the accessibility to all places but at the same time to guarantee an intact environment. This should be possible by avoiding traffic, by shifting from car traffic to environmental friendly traffic modes (= walking, cycling and using public transports) and by increasing the efficiency of traffic modes. This means if you deal with quality of life with regard to traffic and mobility, one has to look how you can link the use of sustainable transport modes to an increase of the quality of life of citizens.

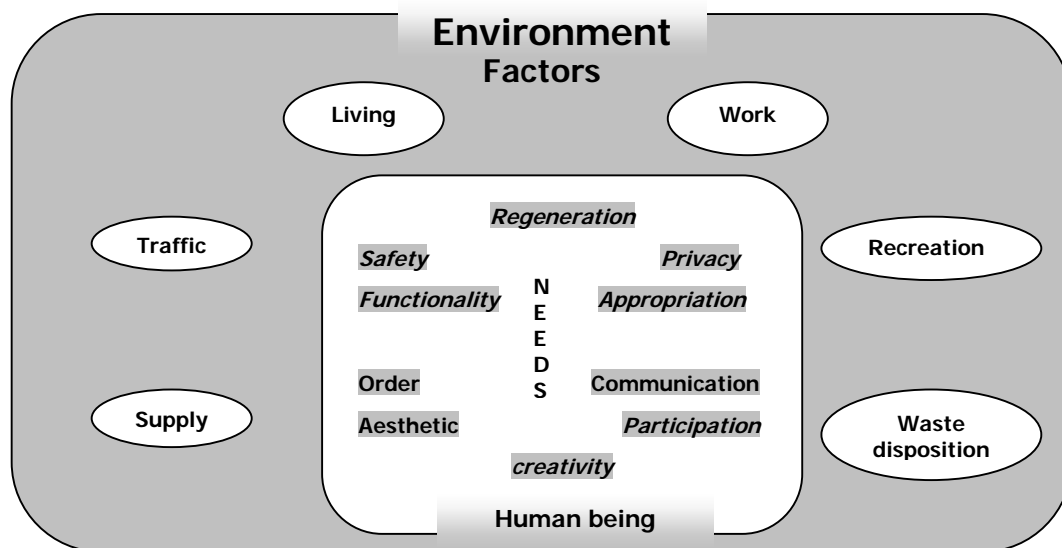
¹ The aspect of pleasure is and was easily seen as something frivolous and dismissed. Research, which strives for rationality and objectivity like in the area of traffic has neglected this. The enjoyment of culture is something completely respectable.

3.2 City planning and quality of life aspects

According to Adams (1992) for the general life satisfaction it is not important if you live in a town or in the suburb of a town, as long as the family, neighbourhood and friend relations are good. One dimension, thus, which is most important for city planning is the communicational dimension. Maderthaner (1995) also underlines the importance of satisfying social contacts for the habitual well-being. On the other hand, situations with a high social contact density are obstructive for communication (e.g. like in high-rise buildings).

R. Maderthaner (1995), who investigated the social factors for urban quality of life defines quality of life as the possibility to satisfy one's needs. He differentiates between six sectors of the human environment (see Fig. 2)

Fig 2: Sectors of the human environment and the needs of utility



Source: Maderthaner, 1995

This graph underlines the importance that the environment, housing, transportation, social services and land use can not be treated as isolated issues.

D. Burden mentions in his article about "Other transportation and quality of life issues" (Burden, 2001) three dimensions which are relevant for a sustainable city:

- Accessibility
- Safety
- Communication

He starts from the assumption that a sustainable city results in a high quality for people. As Maderthaner he underlines the importance of closer ties between land use and transportation planning. According to Burden the main goal of a sustainable city is to design a city, which is walkable. With regard to the three dimensions accessibility, safety and communication he mentions various aspects, which have to be taken care of.

Accessibility: The focus is on accessibility for people and not for vehicles. Land use should be planned so that the typical activities needed by a household during a day are all within 5 minutes. Buildings, paths, streets and landscaping should be designed that walking and cycling are encouraged and trips are interesting. One should build for everyone (pedestrians, bicyclists, children, teenagers, elderly, disabled) and scale for people. This means it should be possible to cross an entire neighbourhood or commercial centre in ten minutes on foot ("village" concept). In general there should be many linkages within neighbourhoods. This

includes that traffic speeds are kept down on local streets. The local streets have to play multiple roles and not just serving traffic flow. The multiple role includes to build bike lanes. Sidewalks have to be well-designed (wide enough, continuous, pleasing visually, maintained)

Safety: Feeling safe and not having to be afraid for one's loved ones (especially children) is a precondition for a sustainable city. Reduced car speeds are felt as a clear improvement with respect to well-being (see also Risser, 2000b). Intersections have to be made easily crossable by pedestrians.

Communication: People are social beings. They like to interact. Infrastructure can influence social interaction. This means one should build in public spaces, where people can interact. The "village" concept of a city promotes communication. The other part of communication is participation. The public is much more interested in transportation and city planning decisions as politicians, planners, etc. think. The public is concerned about how decisions affect their lives. They expect to participate and to some extent to shape transportation plans and city projects.

Even though Burden did not construct a quality of life model many aspects he mentions can be used as indicators for quality of life with respect to transport, mobility and city planning.

3.3 Quality of life and sustainability with regard to transport and mobility

As seen from the discussion above a high quality of life is connected with a sustainable mobility. The concept of sustainability, however, is only useful, if it includes, or if it does not contradict, the concept of quality of life. Sustainability that is achieved with the help of restrictive measures under the condition that quality of life is reduced below the critical level is not acceptable from an ethic point of view. And under democratic conditions, citizens will refuse to support projects that improve sustainability, if their own quality of life will deteriorate as a consequence of the support they give.

One key element of all these quality of life models is the fulfilment of needs. This means if you want that people support a sustainable development, their needs have to be fulfilled. However, as you cannot fulfil the needs of all people, you have to be aware of conflicts. How you deal with conflicts is a part of the communicational dimension. In the following we will give a short overview of "conflicts of interests", where we refer to three types of conflicts (see Risser, 2000). This kind of approach allows to anticipate problems that may arise in the frame of communication with the citizens.

3.3.1 Conflicts of interests

3.3.1.1 Conflicts between individuals or groups and society

One can support the viewpoint: that, when it is declared policy to achieve a change from cars to other modes, then people who use cars must accept disadvantages. As in the area of traffic safety, it is also the case in connection with a change in favour of less environmental pollution so that the individual car driver has interests which go directly against those of the community, and in the area of traffic safety also, and particularly so, against the law. One can, therefore, see the conflict as one *between the individual and society*.

One reason for this is the following; The individual citizen does not always agree that the official position, represented by law-making and policy, and representing the society, is the right one. What is required from the society's side, especially if one feels that one's own in-

terests are not being taken care of well, is detailed explanations as to which values² will be protected by the official position. The explanations given are often, in practice, inadequate. A good (or "bad") example of this is the tradition of "one-sided"³ information. This is in Social psychology seen as disadvantageous for good persuasive work (see, e.g. O'Keefe, 1990). It has been shown (e.g. Sammer, 1986) that, as long as it credibly tries to reflect reality, people are far better able to stand difficult and contradictory information than politicians want to admit, or than they fear (see e.g. Brög, 1997). If there are also disadvantages for somebody, e.g. that old habits and routines have to be changed, than this has to be mentioned.

3.3.1.2 Conflicts between Groups or Individuals

Conflicts of interests also manifest themselves as those between different groups of citizens or individuals (*inter-individual conflicts of interest*).

Table 10 illustrates an inter-individual - or inter-group - conflict. In no way does it deal with a particularly important conflict, but gives a clear and easily-followed example. Pajunen (1993) showed that bus journeys are for the passenger a safe way of getting about. At the same time, she showed that busses are also involved in fewer accidents where others are injured. Simultaneously, in group discussions with pedestrians (in Austria), buses (respectively their drivers) were described as inconsiderate, dangerous and "intimidating" (Risser et al. 1988). Even though they are objectively safe, buses were seen as a threat, at least by some other road users. In table 10, the conflict between bus drivers and pedestrians with regard to the aspects *objective and subjective safety* are illustrated (see e.g., Risser 1993, and, Ballabio & Moran 1998):

Table 10: Conflict Bus Driver/Passenger – Pedestrian concerning objective and subjective safety)

	Objective safety		Subjective safety	
	Busdriver/pas-senger	Pedestrian (pd)	Busdriver/pas-senger	Pedestrian (pd)
Explicit recognition as a value	Recognised by this group	Recognised by this group	Recognised by this group	Recognised by this group
How is the value operationalised?	No accidents	No accidents	Mobility without fear	Mobility without fear
Situation	Interaction with pedestrians	Interaction with buses	Interaction with pedestrians	Interaction with buses
Evaluation: Is the value protected?	yes	yes	yes	no

Source: Risser, 2000

In the interaction between both these groups, the bus drivers do not feel that there are any kinds of safety problems, whereas the pedestrians very strongly experience such problems, whether objective or not. Those people who want to walk (or have to walk) have, however, like all citizens, a legally guaranteed right to safety. In the Austrian constitution like in most other industrial countries, the protection of the integrity of the individual has top priority. Measures which serve the **perceived safety** of the pedestrian and which occasionally bring

² Values are assumptions and feelings of what is "desirable", constituted and communicated by society. In the course of socialisation each individual internalises assumptions of certain values, connotations that frame that value. Internalisation means that socially established values are taken over by the individual ("feelings are learned") and adapted to the individual's perspective. Values are looked upon as commonly accepted standards for orienting ones behaviour.

³ In contrast to "two-sided", one-sided information focuses only on the advantages of a wanted behaviour, or the disadvantages of an unwanted behaviour, and thereby automatically relieves the information of its credibility as there are hardly any types of behaviour which have only advantages

certain losses of **comfort** for car drivers (in this case: bus drivers) have, therefore, to be accepted by those whose comfort is disturbed.

A solution of the conflict displayed in table 10 *to the advantage of pedestrians* simultaneously means an improvement in the attractiveness of walking as a possible alternative to driving a car on short trips, and an increase in the acceptance of the concept of walking. Again here it is important to be aware of the fact that people more easily agree upon new solutions, if there is the probability of certain personal advantages.

3.3.1.3 Intra-individual Conflicts of Interest

Politicians who support traffic change in order to reduce e.g. environmental pollution can be assured that part of the motorists will accept, in principle, measures which reduce their own comfort if, through this, values for which they (the motorists) also stand will be protected. This reflects the existence of different, sometimes opposing, interests in one and the same group of individuals, or within one and the same individual: *intra-individual conflicts*.

Individuals have different and sometimes conflicting interests. Intra-individual conflicts are among others distinguished by their context-dependency. Under certain conditions one agrees to a certain solution whereas one rejects the same solution under different conditions, when other interests are virulent.

3.3.2 Aspects influencing acceptance

Looking at the discussion on the conflicts of interests, it can be assumed that if one wants to enhance the change of a person's attitude, the following arguments should be considered:

- Accuracy is necessary in the portrayal of the political, economical and ecological situation as reasons for a specific implementation
- The situation of different groups within the population must be portrayed in public discussions. Usually only the situation of the sponsors and the potential clients is discussed. Politicians and groups representing specific interests often seem to assume that other groups of citizens are no relevant groups.
- It must be emphasised that even those who most strongly resist a change have varying interests. The interest situation is never totally clear and one-dimensional, and there is a potential that one may find things attractive which one initially rejects. Burwitz et al. (1992), for instance, did a very interesting study with respect to this involving car drivers: Car drivers tried for one month to see how it is to live without a car. The positive aspects that such a life can have were for several of those involved sufficiently noticeable that, despite the well-known advantages of the car, they maintained their new lifestyle for the time being.

The more positive the consequences linked to e.g. a sustainable behaviour are the better acceptance for this behaviour will be.

As a formula, this can be expressed as

$$A_{ha} > A_{la}$$

The weight of the arguments concerning high acceptance aspects should exceed the weight of the arguments concerning low acceptance aspects.

Thereby it should be remembered that „attractiveness“ or "acceptance" is hardly ever defined by the presence of one single interest that is satisfied, but it is the outcome of several needs and interests being *more or less* satisfied at the same time.

3.4 Summary

The following points can be summarised from this chapter:

- Traffic, mobility and city planning have a great impact on the quality of life of individuals. Quality of life is a frequently used keyword in this area, but often it is not operationalised in these fields.
- Also in the traffic, mobility and city planning area it is important to combine objective and subjective assessment instruments of quality of life. E.g. Aspects of safety (objective and subjective safety), of accessibility of social communication seem to play a major role in these areas.
- More or less seven quality dimensions are relevant for the subjective well-being of road users and for the choice of mode: social climate/equity, objective safety, security, mobility, comfort, aesthetic/environmental quality, cost aspects
- A sustainable mobility is closely linked to quality of life aspects. A sustainable mobility means to guarantee the accessibility to all places but at the same time to guarantee an intact environment. If you want to make citizens behave in a way that allows a sustainable development, then the sustainable behaviour has to be linked to an increase of quality of life of citizens. In other words the more positive the consequences linked to a sustainable behaviour are the better acceptance for this behaviour will be. Whereas acceptance is hardly ever defined by the presence of one single interest that is satisfied, but it is the outcome of several needs and interests being more or less satisfied at the same time.
- Conflicts are the result of the different needs of various people. People, who work in the transport, mobility and city planning area ("practitioners") and set the scene for the quality of life of people should be aware of conflicts. Thus a dialogue between communities and citizens is of great importance. Practitioners should automatically consider the point of view of users.

4 Conclusions and input for the ongoing work packages

What can be concluded from the previous elaboration of quality of life and above all what does it mean for the implementation work in the field of transport, mobility and city planning?

In general if you look at the state of the art the main aim for the ongoing work packages seems to be to find a way to shorten the distance between theory and practice about “quality of life” and to reach an operationally valid definition that will allow the experts, decision makers and the users to have a common, practical based point of view to work on, in order to efficiently improve the “quality of life”.

Especially in the field of transport, mobility and city planning a high quality of life for a majority of people can only be achieved if citizens behave in a way that allows a sustainable development.

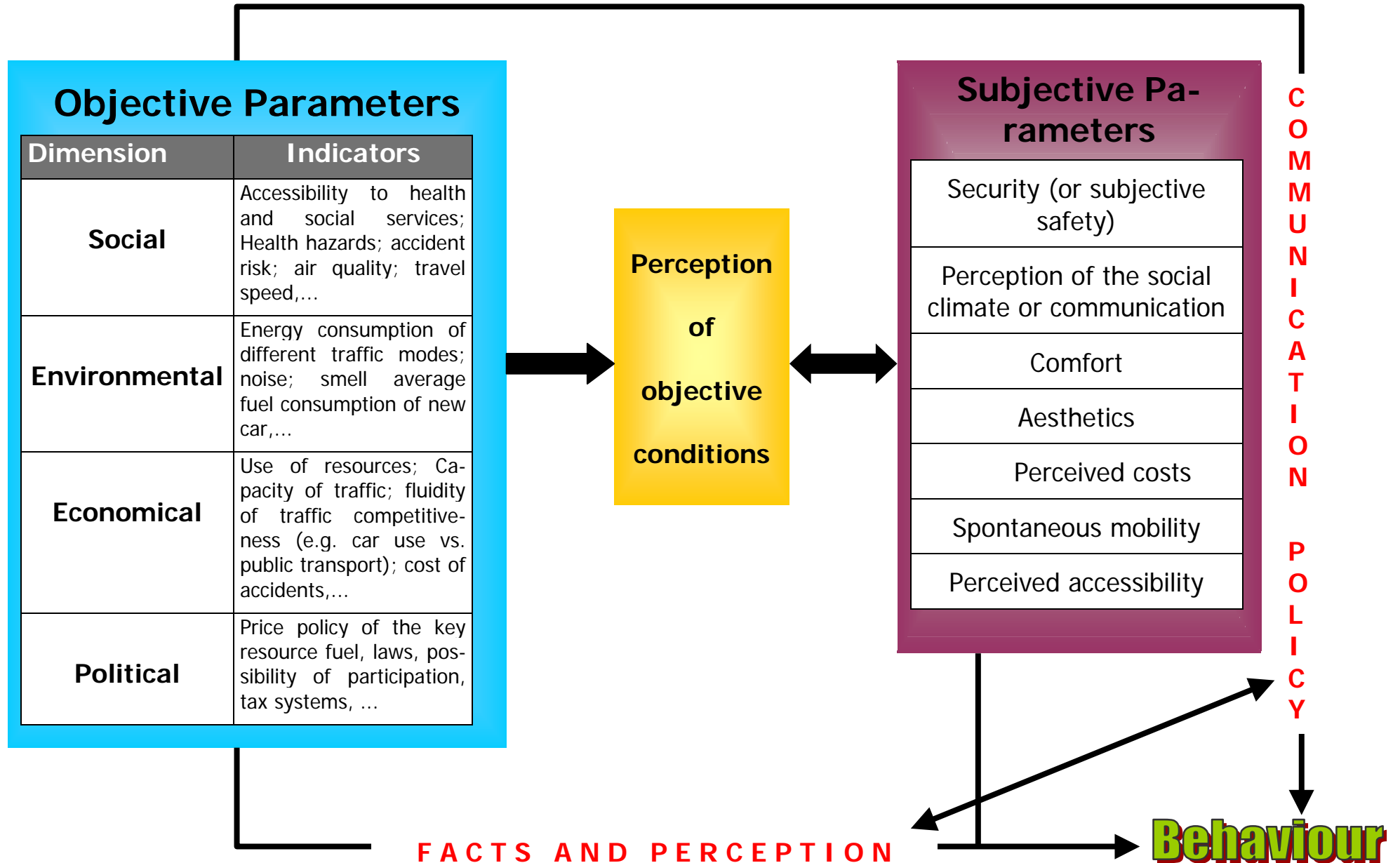
For the assessment of quality of life it is even in these areas important to combine objective and subjective perspectives. According to literature four dimensions for objective parameters are relevant: the **Social Dimension** (accessibility to health and social services, accident risk,...), the **Environmental Dimension** (energy consumption of different traffic modes, noise, air quality ...), the **Economical Dimension** (use of resources, capacity of traffic, fluidity of traffic) and the **Political Dimension** (price policy, laws, possibility of participation, tax systems...).

On the other hand, there are subjective parameters like security, perception of social climate, comfort, aesthetics/environmental quality, perceived costs, spontaneous mobility, perceived accessibility.

Mobility preconditions provided by politicians, decision makers, etc and the perception of the objective conditions by citizens against the subjective parameters lead to a certain behaviour of the citizens. In addition this behaviour can be influenced by communication policy. As we have seen from the literature study the communicational aspect is of great importance in the assessment of quality of life. Marketing research has for instance pointed out the importance of the following: Good communication policy can make bad preconditions look better – of course with the risk of a boomerang effect, if citizens find out that they have been manipulated with the help of communication; and bad communication policy can make good preconditions look worse than they really are, with all disadvantages that brings about.

The following figure illustrates and summarises the relation between objective and subjective parameters, communication policy and behaviour, that has been discussed above:

Fig. 3: Relation between objective and subjective parameters, communication policy and behaviour



It is very important that facts and communication policy harmonise, otherwise there will be the above mentioned boomerang effects, misinterpretation or reactance, or people will quite generally not behave in the wished for way. It is especially boomerang-effects that interest us: Every public institution wants to underline that they provide good services. But when the users – the citizens – come to the conclusion, that service is not at all that good, then the assessment of the service will even be worse as if there had not been any advertising at all.

The following table 11 shows which combinations between facts, their perception and communication lead to different types of problems, among them boomerang effects.

Table 11: Facts and communication policy and the risk of a boomerang effect

Facts	Judgement							
	-	-	-	+	+	-	+	+
Perception of RP*	-	-	+	-	+	+	-	+
Perception of citizens	-	+	-	-	-	+	+	+
Problems connected with communication policy	High BE risk	High BE risk	RP dm.*	Bad com	Bad comm	Some BE risk	Risk of change of policy to the worse	OK

*RP = responsible persons = people, who set the scene for the quality of life for citizens

*dm = demotivated

- means bad conditions, viz. perceived as bad

+ means good conditions, viz. perceived as good

S 1 = If the preconditions, e.g. for using public transport, are bad (long waiting times, bad accessibility of bus stops, etc.) and if they are perceived as bad by all group, communication policy could cause high risk of a boomerang effect (BE)

S 2 reflects that case that even though preconditions are bad and the perception by RP is bad, citizens are satisfied. This can happen if people have no basis for comparison (do not know any other comparable service, have no own experience). If they find out that there are in fact much better solutions → high risk of a BE

S 3 = Preconditions are bad and citizens perceive them as bad, RP however believe preconditions are good. In this case RP lack information → communication will have to convince the RP, in order to enhance their preparedness to enhance the level of service

S 4 = Preconditions are good, but are perceived by both groups as bad. In this case the communication policy has to be improved. RP have to be convinced of this.

S 5= Preconditions are good, but are only perceived as good by the RP. The communication policy has to be improved

S 6= Preconditions are bad but the perception of both groups is good. The same explanation as in S2 is valid, with the exception that RP do not manipulate. There is risk of BE if citizens find out that there are better solutions

S 7 = Preconditions are good; however, they are perceived as good only by the citizens, but not by the RP. In this case there is the risk that RP change a good policy. Communication towards RP has to be improved

S 8 = This is the optimal condition everyone is satisfied as the conditions are good and are perceived as good. The communication policy seems to be efficient, too.

Inputs for the Workshops

In the ongoing workshops we have to deal with the following questions:

- What kind of objective indicators for assessing quality of life are used by traffic, mobility and city planner practitioners in the different dimensions (social, environmental, economic, political) → **What are their experiences with quality of life? How do they assess it?** (Completion of the list of indicators)
- What do they assume about the subjective parameters → **What are their assumptions about citizens' view on their quality of life?** (comparison with literature)
- What kind of behaviour do they expect from the citizens → **Assumption about possible behaviour of citizens or experiences** (if assessment has taken place)
- **What kind of role does communication policy play?**

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